

SWBAT: observe interference and moire patterns

Jan 4-7:20 AM

Concept Sheet

~ 7 rows when we're done...

We'll fill in two terms (rows) today.

Concept	Meaning	Sym-bol	Units	Picture
FREQUENCY	HOW MANY PER UNIT OF TIME $\text{FREQ} = \frac{\#}{\text{TIME}}$	$f$ $f = \frac{1}{T}$	hertz $\text{Hz} = \frac{1}{\text{sec}}$	
PERIOD	HOW MUCH TIME FOR ONE. PERIOD = $\frac{\text{TIME}}{\#}$	$T$ $T = \frac{1}{f}$	seconds sec.	
TRANSVERSE	WHEN THE MEDIUM VIBRATES ACROSS THE DIRECTION THE WAVE TRAVELS.			
LONGITUDINAL	WHEN THE MEDIUM VIBRATES ALONG THE DIRECTION THE WAVE TRAVELS.			
AMPLITUDE	HOW FAR FROM THE MIDDLE.	$A$	meters m	
WAVELENGTH	HOW FAR FOR ONE "BACK & FORTH"	$\lambda$	meters m	
WAVE SPEED	DISTANCE OF A WAVE / TIME OF A WAVE	$v$	meters/second m/s	

Feb 18-6:50 AM

# Welcome!!!

H. Leslie Grebe

SECA Physics  
Monday 18 April 2016

\* Pick up:

- worksheet
- slip of paper for later

Prizes...

## Opening Questions:

Flip? Bounce off?

What happens when 2 waves meet?

How could we test different ideas about what happens?

Centering

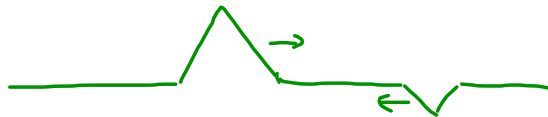
Sep 7-7:04 AM

## Interference: Predict, Explain, Observe



P: 1) What will it look like as these two pulses meet in the middle? After?

O: OBSERVED  FLAT  
E: EXPLANATION: CANCELED OUT



P: 2) What will it look like after these two pulses meet in the middle if one is bigger than the other?

- A) \* FLIP: LITTLE ONE ON TOP, GOING RIGHT  
 B) \* CONTINUE: LITTLE ON BOTTOM, GOING LEFT  
 C) \* BOUNCE OFF: LITTLE ON BOTTOM, GOING RIGHT

OBSERVATION:



O: BIG A WON  
PASSED THRU

Apr 12-7:13 AM

Interference means

the result of adding waves when they meet.

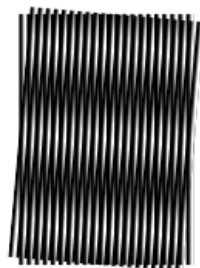
$+$  &  $-$

WAVES KEEP DOING WHAT THEY WERE

= PASS THROUGH,  
CONTINUE

Visually, this is called a moiré pattern.

VISUAL  
INTERFERENCE



[http://en.wikipedia.org/wiki/Moir%C3%A9\\_pattern](http://en.wikipedia.org/wiki/Moir%C3%A9_pattern)

<http://www.youtube.com/watch?v=wbSHeRqnHNk>

Apr 19-7:28 AM

### Daily 3 Questions

- \* Every day except test/project days
- \* 3 Questions on the topics of the day
- \* Main source of daily points
- \* I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

You can't get your points if you don't have your **NAME!!!**

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1) INTERFERENCE means the result from adding waves as they meet.

2) The **visual** result of combining light and dark patterns is called

A) longitudinal

B) Moire pattern

C) frequency

3) When two pulses head towards each other and meet on a string, they will

A) pass through each other

B) bounce off each other

C) neither

Apr 15-7:43 AM